

REMARKS

In the Final Office Action, the Examiner has objected to claim 11 under 37 CFR 1.75 (c). Also in the Final Office Action, claims 1-17 have been rejected under 35 U.S.C. §103 in view of various references. In response, Applicant has filed this Request for Continued Examination (RCE). Enclosed herewith is an RCE transmittal and an RCE fee. Also in response, independent claim 1 has been amended and now recites a method for treating a material including the step of heating and pressurizing the material to a temperature between approximately 705°F and approximately 1500°F and a pressure of between approximately 20 atmospheres and approximately 200 atmospheres in a first chamber. Amended claim 1 now further recites the step of retaining the material in the first chamber at the temperature, the pressure and in an atmosphere that is overall net reducing to volatilize a portion of the material. Support for this amendment is found in the specification beginning on page 5 at line 26 and continuing to page 5 at line 30.

Also in response to the Final Office Action, independent claim 10 has been amended to now recite a method for treating a material including the step of heating the material to a temperature between approximately 705°F and 1500°F without the addition of a substantial amount of oxidizer to volatilize at least a portion of the material. Support for this amendment is found in the specification beginning on page 9 at line 16 and continuing to page 9 at line 25. In addition, dependent claims 3 and 11 have been cancelled to accommodate the amendments to independent claims 1 and 10, respectively. Also, new claims 33-40 have been added. New independent claim 33

recites a method for treating a solid contaminated with a material including the steps of disposing the contaminated solid in a first chamber at a substantially ambient pressure and thereafter heating and pressurizing the contaminated solid to a temperature between approximately 705°F and approximately 1500°F and a pressure of between approximately 20 atmospheres and approximately 200 atmospheres in the first chamber. Support for the new claims is found in the specification beginning on page 10 at line 23 and continuing to page 10 at line 31 and in original claims 1-8.

Amendments to the claims and the new claims have been presented herein to improve the readability of the claims and to point out the features which distinguish the present invention over the cited art. Also, these amendments have been made to more clearly define the structure and cooperation of structure for the present invention. Claims 1, 2, 4-10, 12-17 and 33-40 remain pending.

Rejections under 37 CFR 1.75 (c)

In the Office Action, claim 11, which depends from claim 10, has been objected to under 37 CFR 1.75 (c), as being of improper dependent form for failing to limit the subject matter of claim 10. In response, claim 11 has been cancelled.

With the cancellation of claim 11, Attorney for Applicant respectfully contends that the rejection under 37 CFR 1.75 (c) has been overcome and should be withdrawn.

Rejections under 35 U.S.C. § 103(a)

In the Office Action, claims 1, 3, 8, 10-14, 16 and 17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ross et al. in view of Barton et al. Also, claims 2 and 4 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ross et al. in view of Barton et al. as above, and further in view of Bremer et al. 5,562,834. Further, claims 5 and 6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ross et al. in view of Barton et al. and further in view of Modell et al. 5,252,224. In addition, claims 7, 9 and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ross et al. in view of Barton et al. as above, and further in view of Hazlebeck et al. 6,054,057.

In response, independent claims 1 and 10 have been amended. Claim 1 now recites a method for treating a material including the step of heating and pressurizing the material to a temperature between approximately 705°F and approximately 1500°F and a pressure of between approximately 20 atmospheres and approximately 200 atmospheres in a first chamber. Amended claim 1 further recites the step of retaining the material in the first chamber at the temperature, the pressure and in an atmosphere that is overall net reducing to volatilize a portion of the material and the step of oxidizing the volatilized portion in a second chamber. Independent claim 10, as amended, now recites the step of heating a material to a temperature between approximately 705°F and 1500°F without the addition of a substantial amount of oxidizer to volatilize at least a portion of the material and the step of hydrothermally treating the volatile portion.

Neither the steps nor combination of steps as now claimed for the present invention are taught or suggested by the cited references (i.e. Ross et al. or Barton et al.), taken alone or in combination. Specifically, neither reference discloses volatilizing a portion of a material in an atmosphere that is overall net reducing (as recited in amended claim 1) or without the addition of a substantial amount of oxidizer (as recited in amended claim 10). Instead, Ross et al. disclose the oxidation of a waste material using hydrothermal water oxidation in which a reactant is fluidized by a mixture of water and oxidant (See Ross et al. Col. 8 lines 10-22). Unlike the present invention, there is no teaching or suggestion in Ross et al. that volatilization takes place in an atmosphere that is overall net reducing.

From a processing perspective, the step of volatilizing a portion of a material either 1) in an atmosphere that is overall net reducing (claim 1), or 2) without the addition of a substantial amount of oxidizer (claim 10) would not be obvious in light of Ross et al. This is so because the treatment method disclosed by Ross et al. is fundamentally different from the treatment method disclosed and claimed for the present invention. Specifically, unlike the present invention, Ross et al. add a waste material directly into a hydrothermal oxidation reactor for the purpose of fully oxidizing the waste material. Ross et al. further discloses a second, optional oxidation step to convert any 'trace' gases which are not eliminated during hydrothermal oxidation (See Ross et al. Col. 8 at lines 49-56). Because Ross et al. add the waste directly into a hydrothermal oxidation reactor, certain waste materials cannot be efficiently treated, at least for practical purposes, using the method disclosed in Ross et al. More specifically, as disclosed in the specification for the present application, examples of these wastes

include contaminated solids, corrosives and brines (see page 3, line 10 to page 4, line 32). On the other hand, the present invention discloses and claims a method for treating waste materials that are impractical to pump directly into a hydrothermal oxidation reactor. Specifically, this is achieved by heating the material to a temperature between approximately 705°F and 1500°F to volatilize a portion of the material followed by oxidizing the volatilized portion in a second chamber (claim 1) or hydrothermally treating the volatilized portion (claim 10).

In addition to the distinction noted above, the teaching that is lacking in Ross et al. is not provided in any of the other cited references (i.e. Barton et al., Bremer et al., Modell et al. or Hazlebeck et al.). Specifically, none of the other references teach or suggest heating a material to a temperature between approximately 705°F and 1500°F to volatilize a portion of the material in an atmosphere that is overall net reducing (as recited in amended claim 1) or without the addition of a substantial amount of oxidizer (as recited in amended claim 10) followed by oxidizing the volatilized portion in a second chamber (claim 1) or hydrothermally treating the volatilized portion (claim 10).

In view of the arguments presented above for distinguishing independent claims 1 and 10 of the present invention, as amended from the cited references, Attorney for Applicant respectfully contends that independent claims 1 and 10 are now allowable. Accordingly, since rejected claims 2, 4-9 and 12-17 depend either directly or indirectly from independent claim 1 or independent claim 10, these claims are also allowable.

Also in this Request for Continued Examination, new independent claim 33 and new claims 34-40 which depend therefrom have been added. Independent claim 33 recites a method for treating a solid contaminated with a volatile material including the steps of disposing the contaminated solid in a first chamber at a substantially ambient pressure and thereafter heating and pressurizing the contaminated solid to a temperature between approximately 705°F and approximately 1500°F and a pressure of between approximately 20 atmospheres and approximately 200 atmospheres to volatilize at least a portion of the volatile material in the first chamber. Claim 33 further recites the step of oxidizing the volatilized portion in a second chamber. This combination of steps allows for treatment of bulky contaminated solids which are impractical to pump directly into a hydrothermal treatment reactor. No such combination of steps is disclosed in the cited references (i.e. Ross et al., Barton et al., Bremer et al., Modell et al. or Hazlebeck et al.). Specifically, none of the cited references disclose the step of disposing a solid contaminated with a volatile material in a first chamber at a substantially ambient pressure and thereafter pressurizing to a pressure of between approximately 20 atmospheres and approximately 200 atmospheres in the first chamber and the step of oxidizing the volatilized portion in a second chamber.

In view of the arguments presented above for distinguishing new independent claim 33 from the cited references, Attorney for Applicant respectfully contends that independent claim 33 is allowable. Accordingly, since claims 34-40 depend from independent claim 33, these claims are also allowable.

In conclusion, Applicant respectfully asserts that claims 1, 2, 4-10, 12-17 and 33-40 are patentable for the reasons set forth above, and that the application is now in a condition for allowance. Accordingly, an early notice of allowance is respectfully requested. The Examiner is requested to call the undersigned at 619-688-1300 for any reason that would advance the instant application to issue.

Dated this 10th day of April, 2003.

Respectfully submitted,



NEIL K. NYDEGGER
Attorney for Applicant
Registration No. 30,202

NYDEGGER & ASSOCIATES
348 Olive Street
San Diego, California 92103
Telephone: (619) 688-1300